



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

THE STATISTICAL WORK OF THE UNITED STATES  
GOVERNMENT.\*BY E. DANA DURAND, PH.D., *Former Director of the Census.*

Much might be said regarding the need of extensions of the field of federal statistical work. The most important additions immediately desirable are perhaps annual statistics of manufactures and of agriculture. We already have annual returns, based on actual enumeration and not on estimate, of the mining industries and of cotton ginning, and until recently we had annual returns of lumber cut. There is an equally strong demand for annual data, promptly published, of leading manufacturing industries and of the principal crops and domestic animals.

The need for current data regarding agriculture is by no means satisfactorily met by the estimates of the Department of Agriculture. The margin of error in these is extremely large. The principle followed in arriving at the acreage of crops and the number of domestic animals is to take the decennial census as a starting point and to add or subtract annually estimated percentages of change as compared with the preceding year. These percentages represent merely a consensus of guesses. An error in the estimate for one year continues to affect the figures for each succeeding year until the next census. Since errors in estimates tend, owing to psychological reasons, to continue in the same direction for a series of years, the cumulative error may become very great. For some states the estimates of the Department of Agriculture as to the acreage of certain crops for the year 1909 were several times greater than the figures returned by the census. In some other states the Department's estimates were as much as 50 per cent. too low. For the United States as a whole nearly all estimates were found at the time of the Twelfth Census to be materially too low and nearly all those at the time of the Thirteenth Census to be materially too high.

\* Paper presented at a joint meeting of the American Economic Association and the American Statistical Association, Princeton, N. J., December 30, 1914.

The error in the agricultural estimates would, of course, be reduced by a quinquennial census of agriculture. By a law of 1909 the Census Bureau was authorized to take a simple agricultural census in 1915 and every ten years thereafter, but the present Congress has thus far shown an indisposition to provide the necessary appropriation. In any case a quinquennial census would be only a palliative, not a remedy for the existing evils.

Annual statistics for leading crops and domestic animals, based on actual returns of farmers, would involve comparatively little expense. The rural mail carriers, who cover by far the greater part of the cultivated territory of the country, could collect the data. In course of time it would become possible to induce most farmers to fill out the schedules themselves. The Department of Agriculture recently made an experiment with this method. The proportion of farmers who filled out the schedules delivered to them by the mail carriers was comparatively small. The results of this single experiment, however, do not seem conclusive. There was no law compelling farmers to fill the schedules and farmers were unfamiliar with the scheme. A compulsory law may possibly be unwise at present. Even without it, the system should work fairly well after a few years' experience. In any case the value of accurate annual returns of agriculture would be so great as to justify considerable expense.

The inadequacy of a quinquennial census to show accurately even the general trend of manufacturing industries is obvious, while it completely fails to disclose current conditions. Were an annual canvass of manufactures undertaken it would become year by year increasingly possible to secure the returns by correspondence. This is the method used for the most part by the Geological Survey in obtaining data for mines. It has also been successfully used for manufactures in Massachusetts. The schedules for annual returns might well be far simpler than those used at the quinquennial census of manufactures. They might be confined to inquiries as to the quantity and value of the leading individual products and as to the number of wage-earners, leaving inquiries as to capital, expenses, materials and the like, if such are deemed necessary at all, for the quinquennial or even the decennial enumerations.

In this connection it should be noted that even the elaborate quinquennial censuses of manufactures fail to present a great deal of information which is in great demand. As regards many industries, there has been no attempt to ascertain the quantity or value of specific products. While, for some of these industries, it is scarcely practicable to obtain such data, there are others for which they could be obtained. Moreover, there is much demand for information regarding industries more narrowly limited than those distinguished by the census classifications. Owing to the fact that several branches of business are often carried on by a single establishment, the Census Bureau has more and more adopted the policy of classifying establishments according to very broad groups. When tariff bills, for example, are under discussion, information is demanded for specific industries, not groups of industries. Such information could be compiled and published at least for selected establishments which are free, or largely free, from the complexity of overlapping.

The president of the American Statistical Association, in his annual address, suggested the desirability of a committee of expert statisticians to serve as an adviser to the statistical bureaus of the federal government. Other speakers have touched on the same thought. Doubtless a good deal could be accomplished by the creation of a joint committee of the American Economic and American Statistical Associations holding no official relation to the government. Still more, however, could be accomplished by an advisory commission created by the government and comprising statisticians and economists from the universities and other experts who should devote only a fraction of their time to the work, as well as officials continuously employed in government statistical investigations.

In order that the work of such an advisory body should be of the greatest value, its members would need to devote a good deal of time to it and to incur considerable travel expense, both in mutual consultations and in conducting investigations at Washington and elsewhere.

It will be recalled that these two associations at the time when preparations were being made for the Twelfth Census,

organized a committee to make suggestions. For the most part the work of that committee consisted of monographs prepared, wholly or substantially, by individuals. Useful as these were, they were less useful than would be reports based on extended consultation and discussion. The holding of such consultations by members of a widely scattered committee means time and travel expense.

Moreover, it is essential for any proper criticism of the federal statistical work that the critics should thoroughly familiarize themselves with the actual methods of the various statistical bureaus—the methods of collecting the original data, of editing the schedules, and of tabulation. They must know about tabulating machinery, about processes, and about costs. They must examine original returns and gain some idea as to the margin of error in them. Statisticians outside of the government service are altogether too lacking in information on such points as these. In most branches of statistical work we need at present, far more than any extension of the field or any improvement in the methods of analysis, an increase in the degree of accuracy of the raw material. It is very largely to this task that such a proposed committee should at first address itself. Obviously, in order that a committee of experts should secure the necessary information on which to base recommendations along this line, it would be essential for them repeatedly to visit Washington and to incur considerable expense.

An official commission established by the government would presumably be able to secure appropriations for expenses of this character. Further advantages of such a commission would be the fact that it would have more complete access to information than an unofficial committee, and the fact that its recommendations would doubtless have somewhat greater weight with administrative officers and Congress.

It is possible that the necessary expenses of an unofficial committee on federal statistics might be provided for by private subscriptions. Should the proposed joint committee of the Statistical and Economic Associations find it feasible to coöperate with various commercial and business organizations, which are likewise interested in the improvement of

government statistics, these organizations might aid financially in the work.

The present time is hardly propitious for legislative or administrative action creating an official advisory commission on statistics for the federal government. Every effort is being made to reduce expenditures. The first step is clearly the creation of a joint committee of these two associations and action looking toward an official organization should be deferred until a more suitable time. The joint committee might well consider the elaboration of a plan for such statistical commission as part of its task.

A third topic to which I wish briefly to allude is that of coöperation between the federal government and state and local governments in statistical work. To some extent, coöperation may properly take the form of the employment of state or even municipal agencies to collect statistics for use by both the local and the federal governments. The Massachusetts Bureau of Statistics has to a large extent acted as an agent for the federal Census Bureau in this way. Unfortunately, however, the standard of statistical work in most states and cities is not so high as that demanded by the federal government and the extension of coöperation of this type can be gradual only.

On the other hand, it would seem possible for the federal government to coöperate extensively with the state and local governments in another way, namely, by rendering available for special local uses the original data collected by the federal government itself for more general purposes. There is great demand in some states and cities for the presentation of more details as to small localities than are published by the federal government. This is notably true with respect to the censuses of population, agriculture, and manufactures. For example, a reasonable amount of detail regarding population and agriculture is desirable for townships; the Census presents data only for counties (except, of course, that the number of inhabitants is given for townships).

The federal government properly feels that it cannot afford to tabulate and publish information as fully for small areas as it does for states or for the country as a whole. It should,

however, be willing to place the results of its canvass at the disposal of the states for the purpose of more detailed local presentation or at the disposal of individual cities, counties, or other local governments. The federal government might offer the state or local governments gratis the original schedules after it had finished with them. It might furnish, more promptly, duplicates of those schedules, the cost of which would be low, to be borne locally. Again, the federal government might, on request, itself tabulate and publish the desired details at the expense of the states or local governments. None of these plans can be satisfactorily carried out without new federal legislation. At the last census there were a number of cases in which states or local governments were willing to bear the expense of special tabulations or of copying schedules. The census officials were perfectly willing to comply with their wishes, but found it almost, if not quite, impossible to do so under existing provisions of law, as to confidential treatment of returns and as to financial procedure.

Much of the raw material of statistics collected by the federal government is only partially utilized at present. Valuable metal is left in the ore. Further local elaboration of this material would in many cases be more useful to states and local governments than the special censuses and other statistical investigations which they themselves undertake. Coöperation is the obvious thing. Of course it would be possible also for the federal government, under proper conditions, similarly to make its statistical resources available for private organizations and even individuals.